

A National Conference

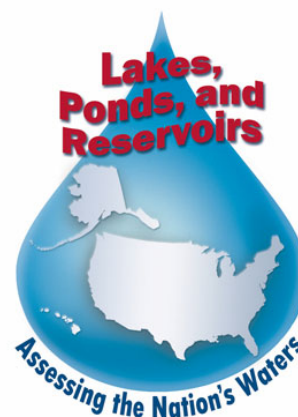
Planning a Survey of the Nation's Lakes

April 25-28, 2006

Holiday Inn Chicago Mart Plaza
Chicago, Illinois

Cosponsored by:

U.S. Environmental Protection Agency
Chicago Botanic Garden
North American Lake Management Society



The U.S. EPA and partners soon will embark on a ***Survey of the Nation's Lakes*** to provide regional and national estimates of lake condition, with the option for state-scale estimates.

The Survey will use a statistically valid approach which, like an opinion poll, randomly selects lake sites that represent the condition of all sites in regions sharing similar ecological characteristics. Survey participants will use consistent sampling and analytical procedures to ensure that the results can be compared across the country.

In addition to characterizing the condition of lakes, this project offers important opportunities to promote regional collaboration on lake management and help states share best practices in lake monitoring methods.

A strong partnership between the states and U.S. EPA will provide the best possible National Lakes Survey. To that end, U.S. EPA is sponsoring this Conference to bring together federal and state staff involved with lake assessment and monitoring programs. This meeting provides a forum for early interaction in the Survey's planning and implementation, and it offers a key opportunity for states and other partners to help define critical technical aspects of the Lakes Survey.

Conference participants will help select the best indicators, field protocols, and analytical procedures for the Survey. U.S. EPA, states, tribes, members of the North American Lake Management Society, and others will discuss approaches and options on a wide range of topics including the chemical, physical, and biological parameters to be measured. The technical and financial feasibility of sampling and analytical methods will be explored, as will the use of specialized technologies (*e.g.*, remote sensing), practical considerations for getting the assessment done (*e.g.*, use of volunteers, availability of labs, timeframes, funding), and emerging pollutants and contaminant issues.

Conference discussions will examine both technical and programmatic aspects of the Survey's implementation. Accordingly, the Conference's target audience focuses on individuals with a technical background in water monitoring program design and execution, as well as those with knowledge of programmatic protocols relating to state water monitoring programs.

More information about this national ***Survey of the Nation's Lakes*** can be found at:
<http://www.epa.gov/owow/lakes/lakessurvey>



Tuesday, April 25

10:00 a.m.-
4:30 p.m.

CONFERENCE REGISTRATION

1:00-4:30 p.m.

PRE-CONFERENCE WORKSHOP:

Developing State-Level Probability-Based Networks and Surveys

WORKSHOP OBJECTIVE: This workshop provides an introduction to probability-based monitoring networks as a component of state monitoring programs.

- ◆ **Elements of a Probability-Based Monitoring Design, Guidance, and Technical Assistance Available to States** *Steven Paulsen; Office of Research and Development - U.S. EPA, Corvallis, Ore.*
- ◆ **Case Studies From States Currently Designing/Implementing Probability-Based Networks**
 - *Neil Kamman; Vermont Department of Environmental Conservation, Waterbury, Vt.*
 - *Jason Hill; Virginia Department of Environmental Quality, Roanoke, Va.*
 - *Jay Silvanima; Florida Department of Environmental Protection, Tallahassee, Fla.*
- ◆ **Comparability and Integration of State-, Regional-, and National-Scale Probability-Based Surveys** *Tony Olsen; U.S. EPA - Office of Research and Development, Corvallis, Ore.*
- ◆ **Monitoring Site Reconnaissance Techniques Relating to Probabilistic Surveys** *Steven Paulsen and Tony Olsen; U.S. EPA - Office of Research and Development, Corvallis, Ore.*



Wednesday, April 26

7:00 a.m.-
5:00 p.m.

CONFERENCE REGISTRATION

7:00-8:20 a.m.

CONTINENTAL BREAKFAST *(included with Registration)*

8:30-9:45 a.m.

OPENING PLENARY SESSION

SESSION OBJECTIVES: Provide background and rationale for the Survey of the Nation's Lakes; discuss the proposed partnership between U.S. EPA and the states' lake monitoring programs to accomplish the Survey; describe the current status and design of the Survey project; review the conference's objectives, desired outcomes, and session logistics.

- ◆ *Peter C. Grevatt; Chief, Monitoring Branch - Assessment and Watershed Protection Division, U.S. EPA, Washington, D.C.*
- ◆ *Steven Paulsen; Office of Research and Development - U.S. EPA, Corvallis, Ore.*

9:45-10:10 a.m.

BREAK

10:10 a.m.-noon

PLENARY SESSION: National Lakes Assessment Planning Projects

SESSION OBJECTIVES: During 2005, U.S. EPA awarded four cooperative agreements intended to contribute to the planning, design, and execution of the National Lakes Survey. Key project staff will review their respective projects and provide an update on their status. At the conclusion of the four presentations, attendees will discuss potential strategies to maximize the contribution these projects can make to the National Lakes Survey.

- ◆ **Implementation and Interpretation of Lakes Assessment Data for the Upper Midwest** *Ed Emmons; Aquatic Science Research - Wisconsin Department of Natural Resources, Monona, Wis.*
- ◆ **Developing Reference Conditions, Indicators, Field Methodology, and Indices of Biotic Integrity for a National Lakes Survey** *Alan Herlihy; Department of Fisheries and Wildlife - Oregon State University, Corvallis, Ore.*
- ◆ **Evaluation of Reference Site Classification Schemes, Probability-Based Survey Designs, Biological Indicators, Biotic Tolerance Values, and the Comparability of Different Sampling Methods for Western Lakes and Ponds** *Charles P. Hawkins; Department of Aquatic, Watershed, and Earth Resources - Utah State University, Logan, Utah*
- ◆ **A Hydrogeologic Lake Classification System for Lake Assessment** *Mary Bremigan; Department of Fisheries and Wildlife - Michigan State University, East Lansing, Mich.*

noon-1:45 p.m.

LUNCHEON AND ADDRESS *(included with Registration)*

The State of the Nation's Ecosystems: Measuring the Lands, Waters, and Living Resources of the United States

- ◆ *Robin O'Malley; Director, Environmental Reporting Program, H. John Heinz III Center for Science, Economics and the Environment, Washington, D.C.*

1:45-3:10 p.m.

BREAKOUT SESSIONS: Lake Condition Indicators

SESSION OBJECTIVE: Identify the key indicators of lake condition from three different (but admittedly related and overlapping) perspectives. These indicators will be used to guide Thursday morning's discussion of which parameters could be most effectively integrated into the National Lakes Survey's monitoring and assessment efforts. Attendees should select the Breakout Group that most closely matches their expertise and professional interests.

- ◆ **Breakout Group A: Recreational Use**
Example Indicators: water clarity, pathogens and bacteria, aquatic plant surface area coverage, algal blooms, algal toxicity, invasive species, boating use and regulations, creel surveys, shoreline land use and public access surveys, etc.
- ◆ **Breakout Group B: Ecological Integrity**
Example Indicators: measurements of plant and animal communities and their interactions, paleoecological trend assessments, in-lake habitat, macrophyte and plankton assemblages, fish indices, etc.
- ◆ **Breakout Group C: Trophic Status**
Example Indicators: water chemistry, chlorophyll, nutrient concentrations, nutrient loading, nutrient ratios, water clarity, algal growth potential tests, etc.

3:10-3:30 p.m.

BREAK

3:30-5:15 p.m.

PLENARY SESSION: Lake Condition Indicator Breakout Groups Report Back

SESSION OBJECTIVE: Each of the Lake Condition Indicator Breakout Groups will present a synopsis of their deliberations, and highlight areas of significant consensus as well as any significant disagreement. A facilitated discussion will follow with the objective of developing a highly efficient -- and yet comprehensive -- array of lake condition indicators that will effectively characterize the condition of the Nation's lakes.

5:15-6:30 p.m.

RECEPTION

(complimentary hors d'oeuvres and refreshments)

7:00-9:00 p.m.

EVENING DISCUSSION SESSION

(complimentary Chicago-style deep dish pizza and cash bar)

INTRODUCTION BY: Robert Carlson; Kent State University, Kent, Ohio

SESSION OBJECTIVE: Lake assessment and data collection efforts at the national and state levels have yielded substantial bodies of data and generated valuable insights regarding lake quality. In addition, these efforts have built significant technical capability in field sampling and data analysis. Conference attendees are encouraged to attend this special evening discussion (in an informal setting with great pizza!) to explore potential approaches for mining existing datasets and incorporating them into the National Lakes Survey.



Thursday, April 27

7:00-8:10 a.m.

BREAKFAST BUFFET *(included with Registration)*

8:15-10:20 a.m.

PLENARY SESSION: Feasibility of Parameters to Define Lake Condition

SESSION OBJECTIVE: Building upon the previous afternoon's discussions of appropriate lake condition indicators, we'll discuss the feasibility of various parameters for sample/data collection and analysis, keeping in mind realistic constraints such as:

- Parameters must reflect an aspect of the ecological condition on a short term or long term scale
- Parameters should be nationally applicable (though approaches for regional refinement strategies will be discussed later in the Conference)
- Parameters must be amenable to standardized collection and analysis methods, lend themselves to repeatability, and be available for use during the 2007 survey season
- Data will be collected at each site only one time during the 2007 survey season;
- Parameters' relative sensitivity to weather abnormalities
- Resource capacities exist at the state and/or federal levels to collect, analyze, and interpret the data
- Results can be communicated and understood by a diverse audience

10:20-10:45 a.m.	BREAK
10:45 a.m.-noon	<p>BREAKOUT SESSIONS: Incorporating Regional Refinements to the National Lakes Survey</p> <p>SESSION OBJECTIVES: Discuss issues related to the National Lakes Survey that may be unique from a geographically regional perspective, and explore the feasibility of making regional-based refinements or embellishments to the national-scale effort (<i>e.g.</i>, supplemental indicators, supplemental parameters, specialized field protocols, additional sampling sites for special populations of interest, etc.)</p> <ul style="list-style-type: none"> ◆ Breakout Group A: Northwest, Upper Midwest and Northeast regions ◆ Breakout Group B: Southeast and Mid-Atlantic regions ◆ Breakout Group C: Arid Southwest region ◆ Breakout Group D: Western Mountains region ◆ Breakout Group E: Central Plains region
noon-1:30 p.m.	LUNCHEON <i>(included with Registration)</i>
1:30-2:45 p.m.	<p>PLENARY SESSION</p> <p>SESSION OBJECTIVE: Provide additional insights into strategies and methods for assessing lake quality and lake use attainment.</p> <ul style="list-style-type: none"> ◆ Diatom Communities Past and Present -- and Their Relevance to a National Lake Assessment Program <i>Donald F. Charles; The Academy of Natural Sciences, Philadelphia, Pa.</i> ◆ TVA's Reservoir Assessment Methods: Potential Relevance to a National Lake Assessment <i>Don Dycus and Tyler Baker; Tennessee Valley Authority, Chattanooga, Tenn.</i>
2:45-3:10 p.m.	BREAK
3:10-5:00 p.m.	<p>PLENARY SESSION: Moving from Indicators to Field Work: Ensuring Data Quality</p> <p>SESSION OBJECTIVES: Discuss the steps needed to develop the National Lakes Survey's assessment and analysis protocols, such as:</p> <ul style="list-style-type: none"> ▪ How many/which laboratories are involved with sample analysis ▪ Lab methods and protocols, training, and quality control ▪ Field methods and protocols, training, and quality control ▪ Site reconnaissance ▪ Quality Assurance Project Plans (QAPPs)
Evening Hours	<p>DINNER ON YOUR OWN</p> <p><i>(sign up at the conference to join groups of conference attendees heading out to area restaurants)</i></p>



Friday, April 28

7:00-8:20 a.m.

BREAKFAST BUFFET *(included with Registration)*

8:15-9:45 a.m.

PLENARY SESSION: Implementation Logistics for the National Lakes Survey

SESSION OBJECTIVES:

- ◆ Discuss strategies for leveraging partners to support the National Lakes Survey (*e.g.*, use of volunteers, local conservation commissions, federal agencies, etc.)
- ◆ Discuss approaches for enhancing the National Lakes Survey to support multiple objectives, such as:
 - state-scale surveys for some, all, or different indicators
 - targeted sites to supplement the randomly selected sites
 - intensified random design in areas of special interest

9:45-10:15 a.m.

BREAK

10:15 a.m.-noon

PLENARY SESSION: Conference Wrap-up and Next Steps

SESSION OBJECTIVES: Provide conference participants with:

- A synopsis of perceived conference outcomes
- An opportunity to succinctly express any strong opinions regarding the perceived conference outcomes or issues that the conference failed to address
- A review of potential opportunities for participants' continued input and assistance in refining the National Lakes Survey
- A review of the National Lakes Survey's funding structure and schedule

noon-1:30 p.m.

CLOSING LUNCHEON AND ADDRESS *(included with Registration)*

SESSION OBJECTIVES: This session marks the beginning of the National Lake Survey's implementation phase. The approach used by U.S. EPA's Aquatic Resources Monitoring Design Team to create a random selection of lakes for inclusion in the National Survey will be reviewed, and the resultant list of lakes to be included in the National Lake Survey will be presented.

- ◆ *Peter C. Grevatt; Monitoring Branch - Assessment and Watershed Protection Division, U.S. EPA, Washington, D.C.*
- ◆ *Steven Paulsen; Office of Research and Development - U.S. EPA, Corvallis, Ore.*

1:30-3:00 p.m.

POST-CONFERENCE DISCUSSION

U.S. EPA staff will be available after the Luncheon's conclusion to meet with interested conference participants to further discuss the results of the lake selection process.

2:00-6:00 p.m.

NALMS BOARD OF DIRECTORS MEETING



Saturday, April 29

8:30 a.m. - 5:00 p.m.

NALMS BOARD OF DIRECTORS MEETING

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The conference's Resource Room will feature the continually updated collection of lake and watershed management guides, manuals, pamphlets, and other public outreach documents assembled by the North American Lake Management Society.

QUESTIONS? Contact Bob Kirschner via e-mail: bkirschn@chicagobotanic.org. If you plan to attend but expect delays in forwarding payment, please fax completed registration form and indicate how/when payment will arrive.

(please print this form and return via either mail or fax)

Mail your check (mail **OR** fax credit card charges) with this completed form to: Lake Survey Conference, Chicago Botanic Garden, 1000 Lake Cook Rd., Glencoe, IL, 60022 (fax: 847/835-1635). **Questions?** Contact Bob Kirschner at: bkirschn@chicagobotanic.org